

**Amendments to the Claims**

**Listing of Claims:**

- 5     1. (currently amended) An ~~optical disc drive~~ electronic device circuit comprising:  
a bus interface for communications with a host;  
an interface unit electrically coupled to the bus interface for downloading  
operational firmware from the host and downloading initialization data  
10     required for initializing the electronic device from the host;  
a control circuit electrically coupled to the interface unit for transferring the  
downloaded operational firmware to a volatile memory; and  
a microprocessor electrically coupled to the control circuit for executing the  
downloaded operational firmware while stored in the volatile memory;  
wherein the microprocessor controls the normal operations of the ~~optical disc-~~  
15     ~~drive~~ electronic device circuit according to the downloaded operational firmware.
2. (currently amended) The ~~optical disc drive~~ electronic device circuit of claim 1 wherein  
the bus interface conforms to USB, IDE, SATA, SAS, or SCSI interface standards.
- 20     3. (currently amended) The ~~optical disc drive~~ electronic device circuit of claim 1 wherein  
the interface unit is a macro.
4. (currently amended) The ~~optical disc drive~~ electronic device circuit of claim 3 wherein  
the macro comprises handshaking, data reception, and writing received data into the  
25     memory functions.
- 5-6. (cancelled)

7. (currently amended) The ~~optical disc drive~~ electronic device circuit of claim 1 wherein the host is a computer system.
- 5 8. (currently amended) The ~~optical disc drive~~ electronic device circuit of claim 1 wherein the microprocessor executes the downloaded operational firmware without accessing a non-volatile memory.
9. (currently amended) The ~~optical disc drive~~ electronic device circuit of claim 1 wherein  
10 the normal operations of the ~~optical disc drive~~ electronic device circuit at least include reading data from an optical disc.
10. (currently amended) The ~~optical disc drive~~ electronic device circuit of claim 1 wherein the volatile memory comprises the downloaded operational firmware being  
15 executed by the microprocessor to control normal operations of the ~~optical disc drive~~ electronic device circuit.
11. (currently amended) An ~~optical disc drive~~ electronic device comprising a download mode wherein operational firmware is downloaded from an external host and stored  
20 into a volatile memory of the ~~optical disc drive~~ electronic device and initialization data required for initializing the electronic device is downloaded from the external host, followed by a normal mode wherein a microprocessor of the ~~optical disc drive~~ electronic device executes the operational firmware stored in the volatile memory to control normal operations of the ~~optical disc drive~~ electronic device.
- 25 12. (currently amended) The ~~optical disc drive~~ electronic device of claim 11 wherein the normal operations of the ~~optical disc drive~~ electronic device at least include reading data from an optical disc, processing the data, and transferring the processed data to

the host.

13. (cancelled)

5 14. (currently amended) The ~~optical disc drive~~ electronic device of claim 11 wherein the operational firmware is downloaded over a bus interface conforming to USB, IDE, SATA, SAS, or SCSI interface standards.

10 15. (currently amended) The ~~optical disc drive~~ electronic device of claim 11 wherein the host is a computer system.

15 16. (currently amended) A method of operating an ~~optical disc drive~~ electronic device, the ~~optical disc drive~~ electronic device comprising a control circuit connected to a microprocessor, a volatile memory, and a bus interface connected to a host, the method comprising:  
downloading operational firmware from the host;  
downloading initialization data required for initializing the electronic device from  
the host;  
writing the operational firmware into the volatile memory; and  
20 the microprocessor executing the operational firmware in the volatile memory to control normal operations of the ~~optical disc drive~~ electronic device.

17. (cancelled)

25 18. (original) The method of claim 16 wherein the operational firmware is downloaded over a bus interface conforming to USB, IDE, SATA, SAS, or SCSI interface standards.

19. (currently amended) The method of claim 16 further comprising the ~~optical disc drive~~  
electronic device transmitting an electrical signal to an application program in the  
host to begin downloading the operational firmware.
- 5 20. (original) The method of claim 16 wherein the host is a computer system.
21. (currently amended) A computer system comprising:  
a host computer comprising operational firmware for controlling operations of an  
~~optical disc drive~~ electronic device and initialization data required for  
10 initializing the electronic device; and  
~~an optical disc drive~~ the electronic device comprising:  
a volatile memory comprising the operational firmware downloaded from the  
host computer over a connecting bus interface; and  
a microprocessor executing the operational firmware in the volatile memory  
15 for controlling normal operations of the ~~optical disc drive~~ electronic  
device;  
wherein the electronic device further downloads the initialization data from the host  
computer.
- 20 22. (currently amended) The computer system of claim 21 wherein the normal operations  
of the ~~optical disc drive~~ electronic device at least include controlling the rotational  
speed of an optical disc in the ~~optical disc drive~~ electronic device and reading data  
from the optical disc.
- 25 23. (original) The computer system of claim 21 wherein the bus interface conforms to  
USB, IDE, SATA, SAS, or SCSI interface standards.
24. (cancelled)

25. (currently amended) An ~~optical disc drive~~ electronic device controller comprising:  
a bus interface for communications with a host;  
a volatile memory for storing operational firmware downloaded from the host;  
5 a microprocessor for controlling normal operations of the ~~optical disc drive~~  
electronic device by executing the operational firmware stored in the volatile  
memory;  
an RF circuit; and  
a control circuit connected to the bus interface, the volatile memory, the  
10 microprocessor, and the RF circuit;  
wherein initialization data required for initializing the electronic device is  
downloaded from the host.
26. (currently amended) The ~~optical disc drive~~ electronic device controller of claim 25  
15 wherein the volatile memory comprises the downloaded operational firmware being  
executed by the microprocessor to control normal operations of the ~~optical disc-~~  
~~drive~~ electronic device.
27. (currently amended) An ~~optical disc drive~~ electronic device circuit used in a host  
20 system, wherein the ~~optical disc drive~~ electronic device circuit has operational  
firmware downloaded from the host system to a volatile memory through a bus  
interface every time after the host being powered on, the ~~optical disc drive~~  
electronic device circuit comprising:  
25 a microprocessor for executing the downloaded operational firmware while stored  
in the volatile memory;  
wherein the microprocessor controls the normal operations of the ~~optical disc-~~  
~~drive~~ electronic device according to the downloaded operational firmware, and  
initialization data required for initializing the electronic device circuit is

downloaded from the host system.

28. (currently amended) The ~~optical disc drive~~ electronic device circuit of claim 27  
wherein the bus interface conforms to USB, IDE, SATA, SAS, or SCSI interface  
5 standards.
29. (cancelled)
30. (currently amended) The ~~optical disc drive~~ electronic device circuit of claim 27  
10 wherein the host system is a computer system.
31. (currently amended) The ~~optical disc drive~~ electronic device circuit of claim 27  
wherein the microprocessor executes the downloaded operational firmware without  
accessing a non-volatile memory.  
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32. (currently amended) The ~~optical disc drive~~ electronic device circuit of claim 27  
wherein the host system comprises the volatile memory.
33. (currently amended) The ~~optical disc drive~~ electronic device circuit of claim 27  
20 wherein the host system comprises a host controller accessing the volatile memory  
that is shared by the host system and the microprocessor during the normal  
operation.
34. (currently amended) The ~~optical disc drive~~ electronic device circuit of claim 27  
25 wherein the volatile memory is accessed only by the ~~optical disc drive~~ electronic  
device circuit on the normal operation.
35. (currently amended) The ~~optical disc drive~~ electronic device circuit of claim 27

wherein the ~~optical disc drive~~ electronic device circuit comprises the volatile memory.

36. (new) An electronic device comprising:

- 5           a bus interface for communications with a host;
- an interface unit electrically coupled to the bus interface for downloading operational firmware from the host;
- a volatile memory;
- a control circuit electrically coupled to the interface unit for transferring the
- 10           downloaded operational firmware to the volatile memory;
- a non-volatile memory, storing initialization data required for initializing the electronic device without storing operational firmware; and
- a microprocessor electrically coupled to the control circuit for executing the
- downloaded operational firmware while stored in the volatile memory;
- 15           wherein the microprocessor controls the normal operations of the electronic device according to the downloaded operational firmware.

37. (new) A method of operating an electronic device, comprising:

- downloading operational firmware from an external host of the electronic device;
- 20           writing the operational firmware into a volatile memory;
- utilizing a non-volatile memory to store initialization data required for initializing the electronic device without storing operational firmware; and
- executing the operational firmware stored in the volatile memory to control normal
- operations of the electronic device.

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